


# Emissions Preparation for St. Louis Ozone - PM<sub>2.5</sub> Modeling



Technical Workgroup Meeting  
October 28, 2004

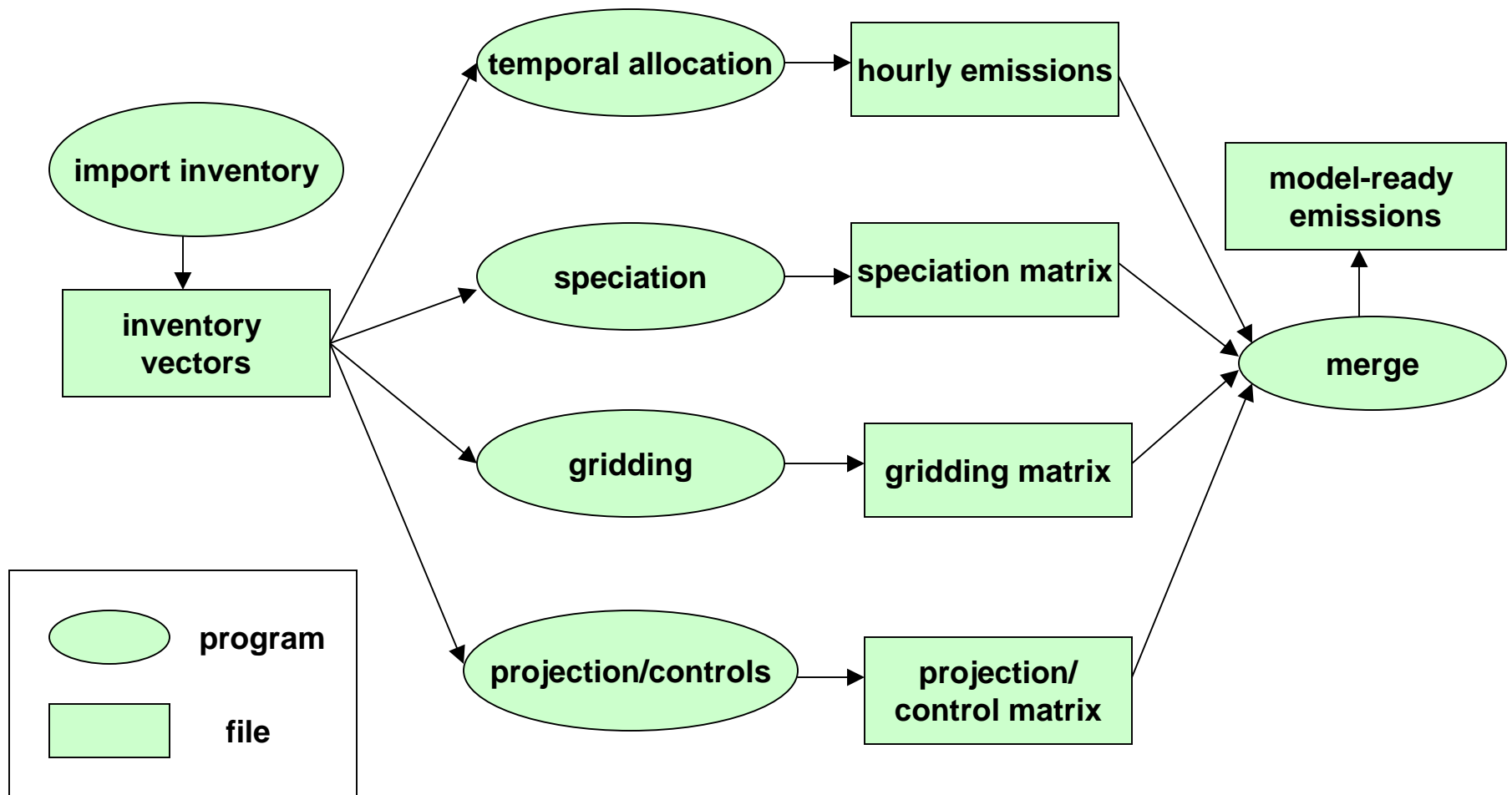
Wendy Vit  
Missouri Department of Natural Resources

# Overview of Process



- Compile data for base year of 2002
  - ✓ Emissions
  - ✓ Ancillary data (temporal, spatial, speciation profiles)
- Process emissions for base year using SMOKE or EMS
- Prepare future-year emissions by applying growth and control factors to base year emissions

# SMOKE Flow Diagram



# Why SMOKE?

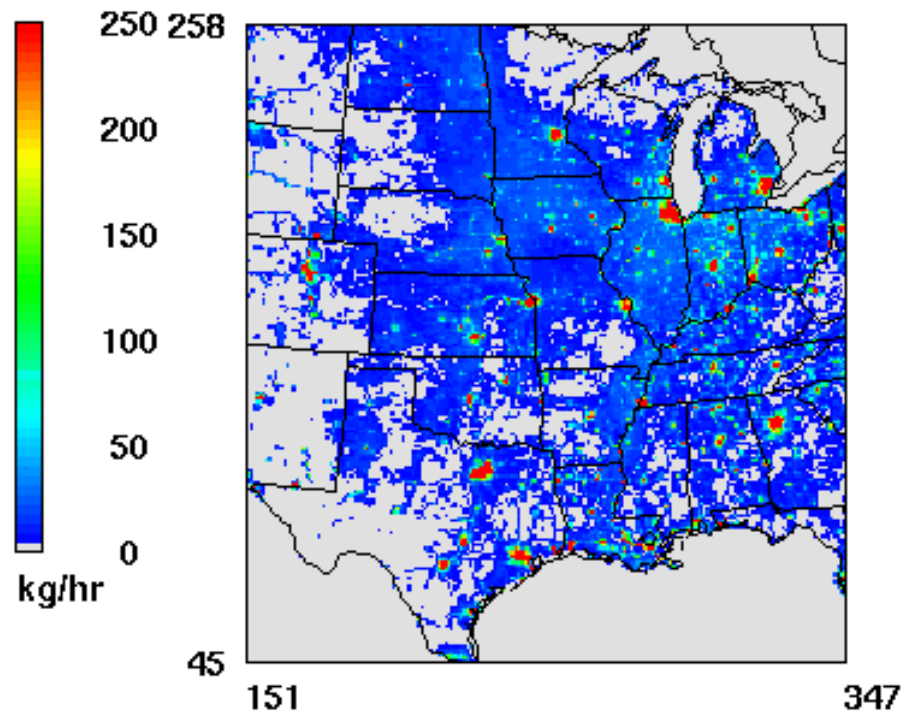


- Most Regional Planning Organizations (RPOs) are using SMOKE and have developed/are developing SMOKE datasets and tools for 2002 base year
- Future of EMS is uncertain with LADCO/Midwest RPO leading the development of CONCEPT, the “next-generation” emissions processor

# Example -- Emissions Processed with SMOKE

## Area Source NO<sub>x</sub> Emissions

CENRAP test data: 1999 NEI v. 1 grown to 2002  
12 km grid



July 9, 1999 15:00:00  
Min= 0 at (151,45), Max= 7600 at (246,76)

# Sources of Data for St. Louis Modeling



- EPA - 2002 National Emission Inventory
- RPOs
  - ✓ Central Regional Air Planning Association (CENRAP)
  - ✓ Midwest RPO
- State/local agencies
- Local planning organizations
- Industry representatives

# What can MDNR contribute?



- Prepare inputs and run SMOKE
  - ✓ Area -- 2002 and future year
  - ✓ Offroad mobile -- 2002 and future year
  - ✓ Point -- 2002 and future year
- Process biogenic and onroad mobile emissions with SMOKE, with some contractor assistance

# Ideas for Contractor Assistance



- Incorporate link-based VMT into onroad mobile inputs
- Prepare BELD3 land use data (36 km, 12 km, 4 km)
- Research and prepare growth and control factors
- Provide technical support